

# Revitalizing Nuclear Operations in the Joint Environment

LTC Kelvin Mote, USA

The joint planner has many conditions to consider when contemplating future threats against the United States. The vast expanse of an adversary's weapons arsenal includes improved terminal guidance systems for ballistic missiles, cyberspace operations, and space-related weapon systems. However, after 13 years of protracted counterinsurgency operations, our nation has overlooked a persistent danger that threatens our force—nuclear weapons. As various publications and deterrence symposiums have emphasized, the time has arrived for serious discourse and intellectual effort on the adversarial use of nuclear weapons and our plans to operate in a restrictive environment. Consequently, we must educate Department of Defense (DOD) personnel in nuclear operations and the redevelopment of nuclear operational doctrine to prepare the joint force for future challenges.

## Strategic Context

Today, *cyberspace operations* is the “in-vogue” term to frame how the DOD should prepare for tomorrow's fight. But such operations represent only a portion of the multidomain effects from potential adversaries that we face in a 2025 scenario. According to the *Global Trends 2025* report, “The risk of nuclear weapon use over the next 20 years, although remaining very low, is likely to be greater than it is today.”<sup>1</sup> The possibility of an enemy's using these weapons drives preparatory measures for the joint force to fight and win. As addressed in the chairman of the Joint Chiefs of Staff's *Capstone Concept for Joint Operations*, the availability of “advanced technology in the global economy means

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>FEB 2014</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2014 to 00-00-2014</b>	
4. TITLE AND SUBTITLE <b>Revitalizing Nuclear Operations in the Joint Environment</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Air Force Research Institute (AFRI) ,Air and Space Power Journal ,155 N. Twining Street,Maxwell AFB,AL,36112</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>8</b>	19a. NAME OF RESPONSIBLE PERSON
a REPORT <b>unclassified</b>	b ABSTRACT <b>unclassified</b>	c THIS PAGE <b>unclassified</b>			

that middleweight militaries and non-state actors can now muster weaponry once available only to superpowers.”<sup>2</sup> The world now includes seven overt nuclear powers, one covert nuclear power (Israel), and at least three nuclear aspirants (Iran, North Korea, and Syria), making the nuclear phenomenon more global than ever.<sup>3</sup> During a 2009 speech in Prague, President Barack Obama acknowledged that “the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up.”<sup>4</sup> These conditions form the baseline of the future nuclear world, which leads to a natural assumption that developing nations will not adhere to the Non-Proliferation Treaty.

Zachary Davis addressed this phenomenon as “‘strategic latency,’ a condition in which technologies that could provide military (or economic) advantage remain untapped” until a security need drives the weaponization of the technology.<sup>5</sup> For example, in a recent article in the *Times* of London, a senior Saudi official remarked that “there is no intention currently to pursue a unilateral military nuclear programme but the dynamics will change immediately if the Iranians develop their own nuclear capability. . . . Politically, it would be completely unacceptable to have Iran with a nuclear capability and not the kingdom.”<sup>6</sup> Many countries now feel that it is in their best interest to tap into these latent technologies. The advantage in nuclear capability that US forces have enjoyed may narrow in the future. The expansion of technology, the trend of superpowers decreasing their strategic stockpile of nuclear weapons, and the complexities of deterrence against and among multistate actors all compel countries to pursue nuclear capability. *Global Trends 2030* reiterates the threat of a multipolar world, noting that efforts to deter the nuclear ambitions of North Korea and Iran will decide the future of the Non-Proliferation Treaty.<sup>7</sup> In parallel, these actions will also determine how the Joint Staff shapes nuclear capabilities and doctrine. Strategic planners would do well to peer into the future and adjust our nuclear capabilities to match the emerging threats that America may face.



## Historical Perspective

US nuclear capability stems from more than 70 years of intellectual and operational development. At the height of the Cold War, US scholars and joint operational planners were working simultaneously on weapons development and operational art to employ effects. As we look at the complex environment that the adversary will present in the future, we realize that the DOD must reinvigorate operational concepts to deter nuclear aspirants and redevelop doctrine to operate in a nuclear environment. Thérèse Delpech, the author of *Nuclear Deterrence in the 21st Century*, perhaps one of the best studies of this phenomenon, observes that “as long as nuclear weapons are around, even in small numbers, deterrence is the safest doctrine to deal with them. This principle is easier to embrace in theory than it is to put into practice. This was true during the Cold War, and it appears to be even truer today.”<sup>8</sup>

The terms *theory* and *practice* are synonymous with *concept* and *preparation*. There are multiple ways to address preparation for deterrence in tomorrow's fight. More importantly, we cannot assume that every action in a crisis will follow a finely calculated plan. According to Delpech, “*An era of strategic piracy may be opening up, where piracy is defined as lawlessness and deception*” (italics in original).<sup>9</sup> As a nation, we are ill prepared for the rise of nuclear aspirants and the opaque or nonexistent nuclear doctrines of those countries. The difficulty of maintaining effective deterrence depends upon the operational art to employ the effects.

An understanding of operational art, as expressed in many intermediate-level officer-education courses, stems from doctrine. For the most part, almost no current doctrine on nuclear operations is available for review by operational planners. First and foremost, the employment of nuclear weapons is controlled by the president. Since the collapse of the Soviet Union, the United States has been in a state of redefining its policy of using nuclear weapons in combat operations. Nuclear operational doctrine in the Cold War emerged from national strategic guidance operationalized via joint and service publications. The DOD finds

itself at a crucial time when it has provided national guidance on how we would employ nuclear weapons but has not developed corresponding operational guidance. Joint Publication (JP) 3-12, *Doctrine for Joint Nuclear Operations*, the overarching joint guidance that offered a framework for nuclear operations, appeared on 15 December 1995 and was rescinded in 2006. A publication date for a revision has yet to be determined. Perhaps of even more concern is the fact that the Army's corresponding publication, Field Manual 100-30, *Nuclear Operations*, published in 1996, remains in the active duty field manual depository. More than 17 years of strategic guidance designed to help shape the Army field manual and guide Army planners is missing. Such dated publications and the absence of joint operational planning manuals contribute to the steady decline of competence in nuclear operational art within our officer corps.

Officers must understand the effects of nuclear weapons. Thirteen years of protracted counterinsurgency operations, changes in our national nuclear policy, and the rise of competing technologies have atrophied both nuclear operational concepts and knowledge of the danger that nuclear weapons pose to US forces. As we look at future conflicts, it is essential that we understand how an adversary may employ nuclear weapons and the effects that deployed forces will have to overcome.

## Operational Considerations

Currently, nuclear weapons pose a threat not inherently familiar to most military planners. People who grew up in the 1980s find it easy to reflect on the destructive nature of nuclear weapons. Movies of that era depicted the magnitude of their capability, and President Ronald Reagan's Strategic Defense Initiative drove military strategies to supplant mutually assured destruction. However, in the post-Generation X military, officers have only limited experience with our nation's Cold War heritage. Instead, operations have focused on counterinsur-



gency and winning the hearts and minds of a population, often neglecting the full spectrum of military operations.

Although nuclear warfare sits at the far right in the spectrum of operations, we must realize what happens when an enemy employs a nuclear weapon. By its very nature, a nuclear detonation produces effects significantly more powerful than a conventional explosion. Mass for mass, a nuclear detonation is millions of times more powerful than its conventional counterpart. As highlighted in the *Nuclear Matters Handbook*, current doctrine does not capture the effects produced by a typical surface nuclear detonation.<sup>10</sup>

As we review operational nuclear effects, it is interesting to note the appearance of nuclear operations in joint doctrine outside the chemical, biological, radiological, nuclear, and high-yield explosives context of force protection. The concept appears once in JP 3-0, *Joint Operations*, and twice in JP 5-0, *Joint Operation Planning*. In their more than 468 combined pages, the concept barely justifies a single page.<sup>11</sup>

This lack of operational effects in a nuclear environment exposes the lost operational art of planning and maneuvering forces against a nuclear-capable adversary. Joint publications marginally concentrate on weapons employment and planning and do not supply a framework for a joint force planner to consider when opposing a nuclear-armed enemy. Although the employment of nuclear weapons remains at the discretion of the president, the joint force planner must be prepared to operate in a contested environment against nuclear arms in a future strategic context, as reflected by the following key points:

1. An adversary's nuclear weapons or even a credible threat of nuclear first use will have an effect across the range of military operations. US national leadership would consider the goals and desired end state of future operations in this context.
2. An enemy may consider that a limited nuclear strike offers a quick tactical victory through speed, survivability (penetration), and an increased chance of success against critical US targets in a

deployed environment (i.e., a ballistic missile strike against deployed forces).

- a. A quick strike could induce delays in the US decision-making cycle.
  - b. Missile defense capabilities may be needed to counter the threat.
3. An adversary's use of nuclear weapons employed in a high-altitude burst could degrade US command and control.
  4. Planners should review the employment of mass formations. A foe's use of nuclear weapons and their subsequent effects pose a high risk to massed US battle formations and forward fixed operating bases.
  5. Target selection is a key consideration in escalation control in the context of operations against a nuclear-armed adversary. Inclusion of a target on the joint integrated prioritized target list requires careful target analysis, including its impact on deterrence. Planners should be prepared for senior leadership's large-target-category withholds thought necessary to maintain stability in a strategic crisis.

The inclusion of nuclear effects and the art of maneuvering against a nuclear-capable opponent give us a framework for enhanced operational effects. In a future conflict, we cannot assume that emerging adversaries will keep operations below the nuclear threshold; rather, we must manage conflict through escalation control and de-escalation. The inclusion of these points in tomorrow's doctrine as well as an intellectual discussion on the topic will inform Joint Staff planners and offer a better framework for joint force operations.

## Conclusion

The joint planner has multiple conditions to consider when contemplating threats against the United States. An adversary's weapons arse-



nal is diverse, including improved ballistic missiles, cyberspace operations, space-related weapon systems, and *nuclear weapons*. Various discussion topics indicate that the time has arrived for serious discourse and intellectual effort concerning the enemy's use of such weapons and our plans to operate in a nuclear environment. The situation demands further education of DOD personnel in nuclear operations and the redevelopment of nuclear operational doctrine in order to prepare the joint force for the challenges we face in the future. ★

---

## Notes

1. National Intelligence Council, Office of the Director of National Intelligence, *Global Trends 2025: A Transformed World* (Washington, DC: National Intelligence Council, Office of the Director of National Intelligence, 2008), 67, <http://www.aicpa.org/research/cpahorizons2025/globalforces/downloadabledocuments/globaltrends.pdf>.
2. Chairman of the Joint Chiefs of Staff, *Capstone Concept for Joint Operations: Joint Force 2020* (Washington, DC: Chairman of the Joint Chiefs of Staff, 10 September 2012), 2, [http://www.defenseinnovationmarketplace.mil/resources/JV2020\\_Capstone.pdf](http://www.defenseinnovationmarketplace.mil/resources/JV2020_Capstone.pdf).
3. Thérèse Delpech, *Nuclear Deterrence in the 21st Century: Lessons from the Cold War for a New Era of Strategic Piracy* (Santa Monica, CA: Rand Corporation, 2012), 3, [http://www.rand.org/content/dam/rand/pubs/monographs/2012/RAND\\_MG1103.pdf](http://www.rand.org/content/dam/rand/pubs/monographs/2012/RAND_MG1103.pdf).
4. "Remarks by President Barack Obama, Hradcany Square, Prague, Czech Republic" (Washington, DC: White House, Office of the Press Secretary, 5 April 2009), [http://www.whitehouse.gov/the\\_press\\_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered](http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered).
5. Zachary S. Davis, "Strategic Latency and World Order," *Orbis* 55, no. 1 (January 2011): 72.
6. Hugh Tomlinson, "Saudi Arabia Threatens to Go Nuclear 'within Weeks' If Iran Gets the Bomb," *Times* (London), 10 February 2012.
7. National Intelligence Council, Office of the Director of National Intelligence, *Global Trends 2030: Alternative Worlds* (Washington, DC: National Intelligence Council, Office of the Director of National Intelligence, 2013), 57, [http://www.dni.gov/files/documents/GlobalTrends\\_2030.pdf](http://www.dni.gov/files/documents/GlobalTrends_2030.pdf).
8. Delpech, *Nuclear Deterrence in the 21st Century*, 1.
9. *Ibid.*, 6–7.
10. Office of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, *Nuclear Matters Handbook*, expanded ed. (Washington, DC: Office of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, 2011), 211–37, <http://www.fas.org/man/eprint/NMHB2011.pdf>.



11. Joint Publication (JP) 3-0, *Joint Operations*, 11 August 2011, III-34, V-58, [http://www.dtic.mil/doctrine/new\\_pubs/jp3\\_0.pdf](http://www.dtic.mil/doctrine/new_pubs/jp3_0.pdf); and JP 5-0, *Joint Operation Planning*, 11 August 2011, IV-51, [http://www.dtic.mil/doctrine/new\\_pubs/jp5\\_0.pdf](http://www.dtic.mil/doctrine/new_pubs/jp5_0.pdf).



#### LTC Kelvin Mote, USA

Lieutenant Colonel Mote (BA, University of Tennessee; MS, University of Maryland) is a joint planner in Joint Functional Component Command for Global Strike, US Strategic Command, Offutt AFB, Nebraska. He is responsible for providing operational expertise in the deliberate, adaptive, and time-sensitive planning necessary to achieve national objectives. As an armor officer and information operations planner, he deployed more than 48 months in support of Operation Southern Watch and Operation Iraqi Freedom. His follow-on assignment is with the Combined Arms Center Mission Command Training Program at Fort Leavenworth, Kansas. Lieutenant Colonel Mote is a graduate of the US Army Command and General Staff College and the US Marine Corps General Staff College.

**Let us know what you think! Leave a comment!**

**Distribution A: Approved for public release; distribution unlimited.**

#### Disclaimer

The views and opinions expressed or implied in the *Journal* are those of the authors and should not be construed as carrying the official sanction of the Department of Defense, Air Force, Air Education and Training Command, Air University, or other agencies or departments of the US government.

This article may be reproduced in whole or in part without permission. If it is reproduced, the *Air and Space Power Journal* requests a courtesy line.

<http://www.airpower.au.af.mil>